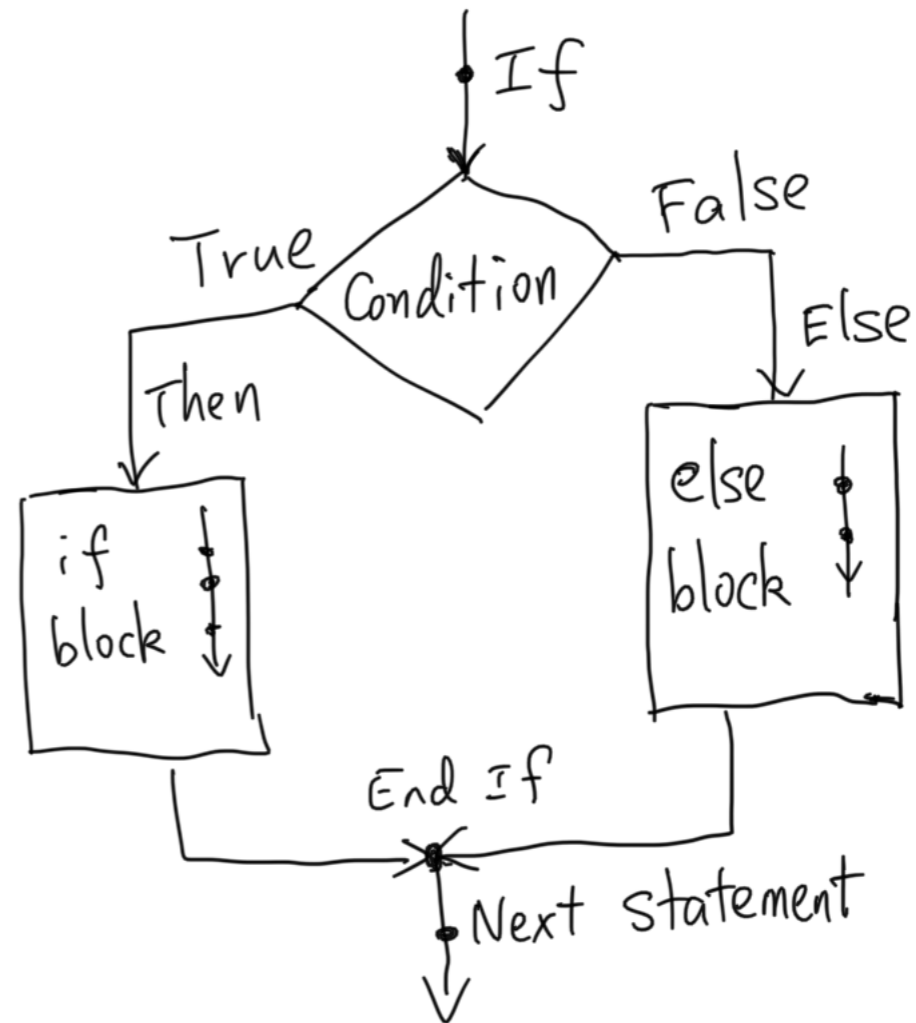


Applications Programming

Selection Statements

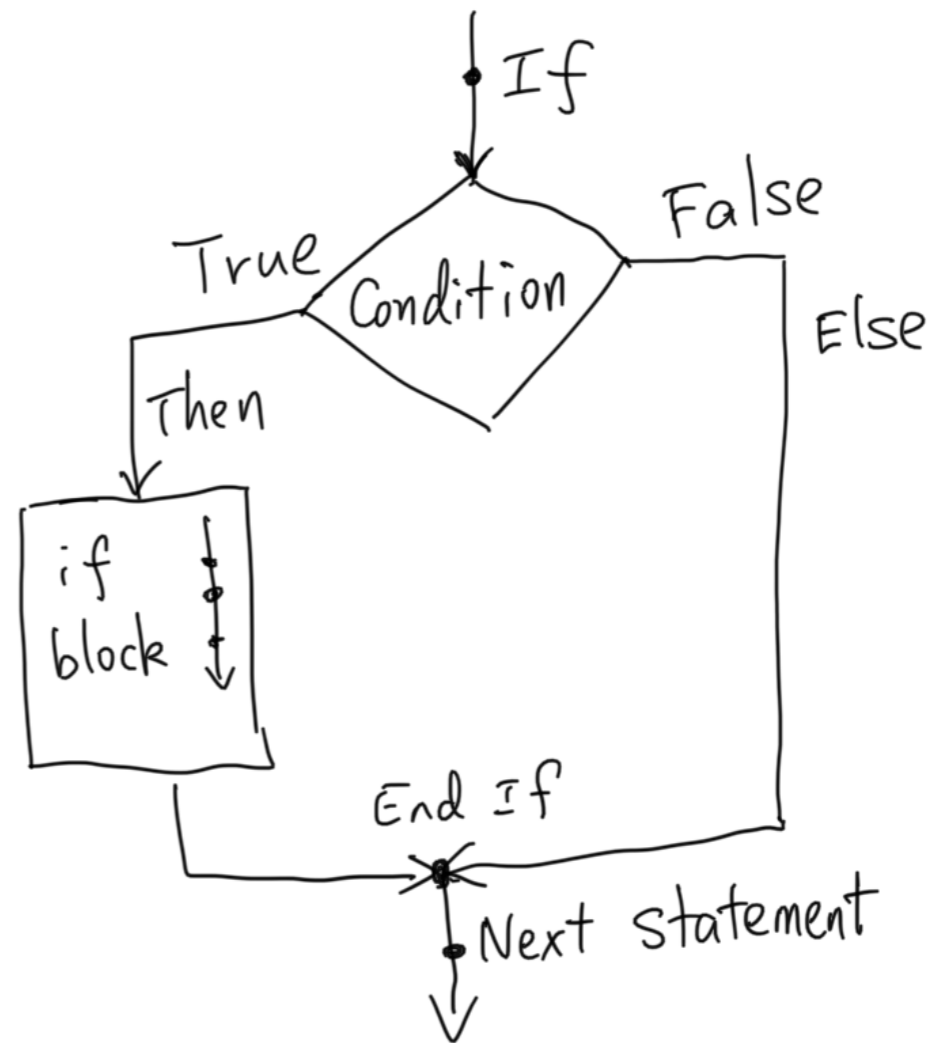
if-else statement

- syntax:
If condition Then
 ' if-block statements
Else
 ' else-block statements
End If
- condition is described by a boolean expression



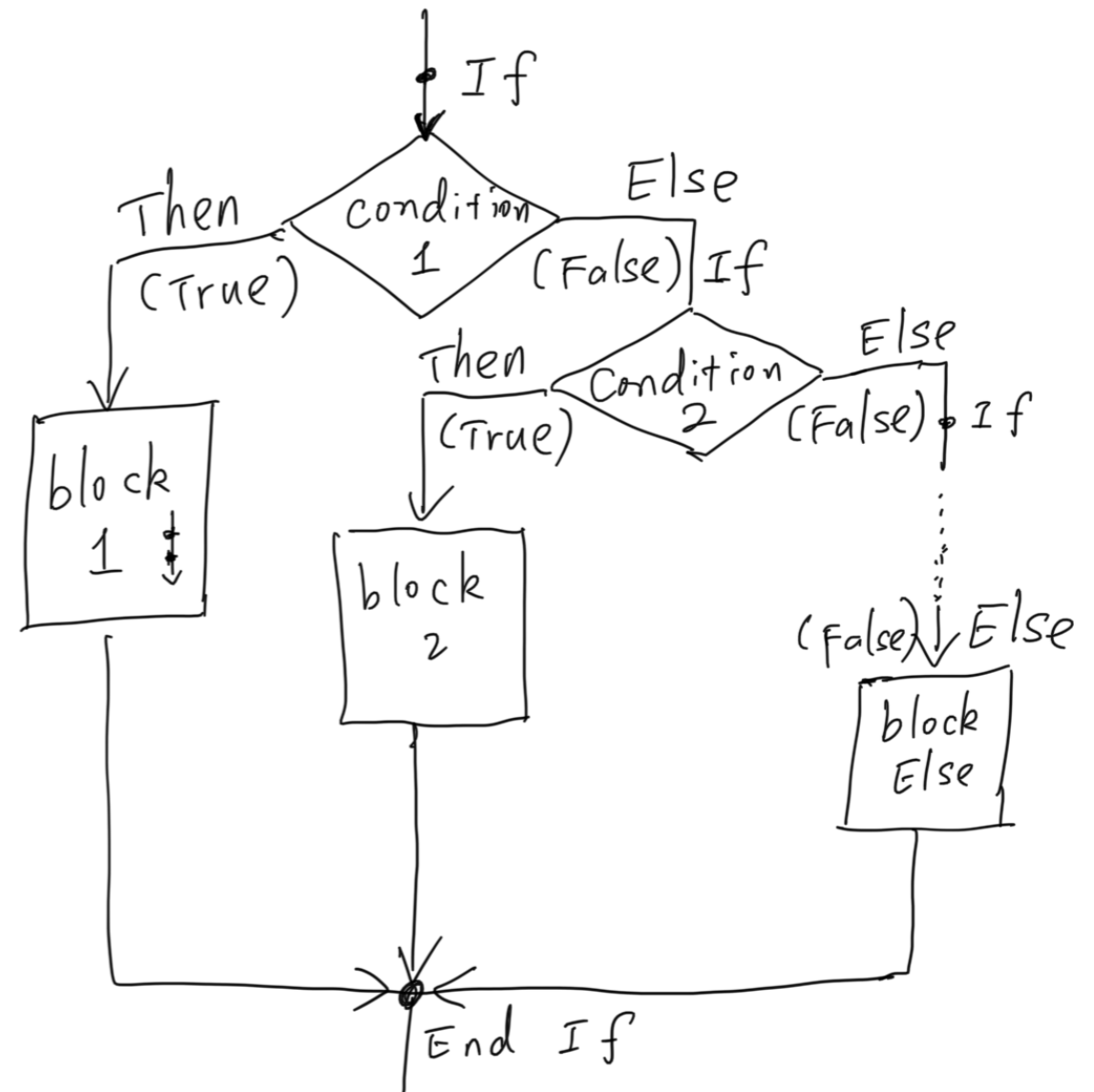
if statement

- Else block is optional
- syntax:
If condition Then
 ' if-block statements
End If
- condition is described by a boolean expression
- If you don't want If block, negate the condition and then omit the Else block



Extended If Statement

- More than 2 branches in one conditional statement
- Syntax:
If condition_1 Then
 ' block_1 statements
Elseif condition_2 Then
 ' block_2 statements
Elseif
 ' block_n statements
Else
 ' block_else statements
End If



Select Case Statement

- In a Select Case statement, one of several possible actions is taken, depending on the value of an expression.

- Syntax:

```
Select Case selector  
    Case valueList_1  
        action_block_1 statements  
    Case valueList_2  
        action_block_2 statements  
    Case Else  
        action_block_Else  
End Select
```

- selector is an expression, and usually an arithmetic expression.
- Case Else is optional.

Select Case Statement (Cont.)

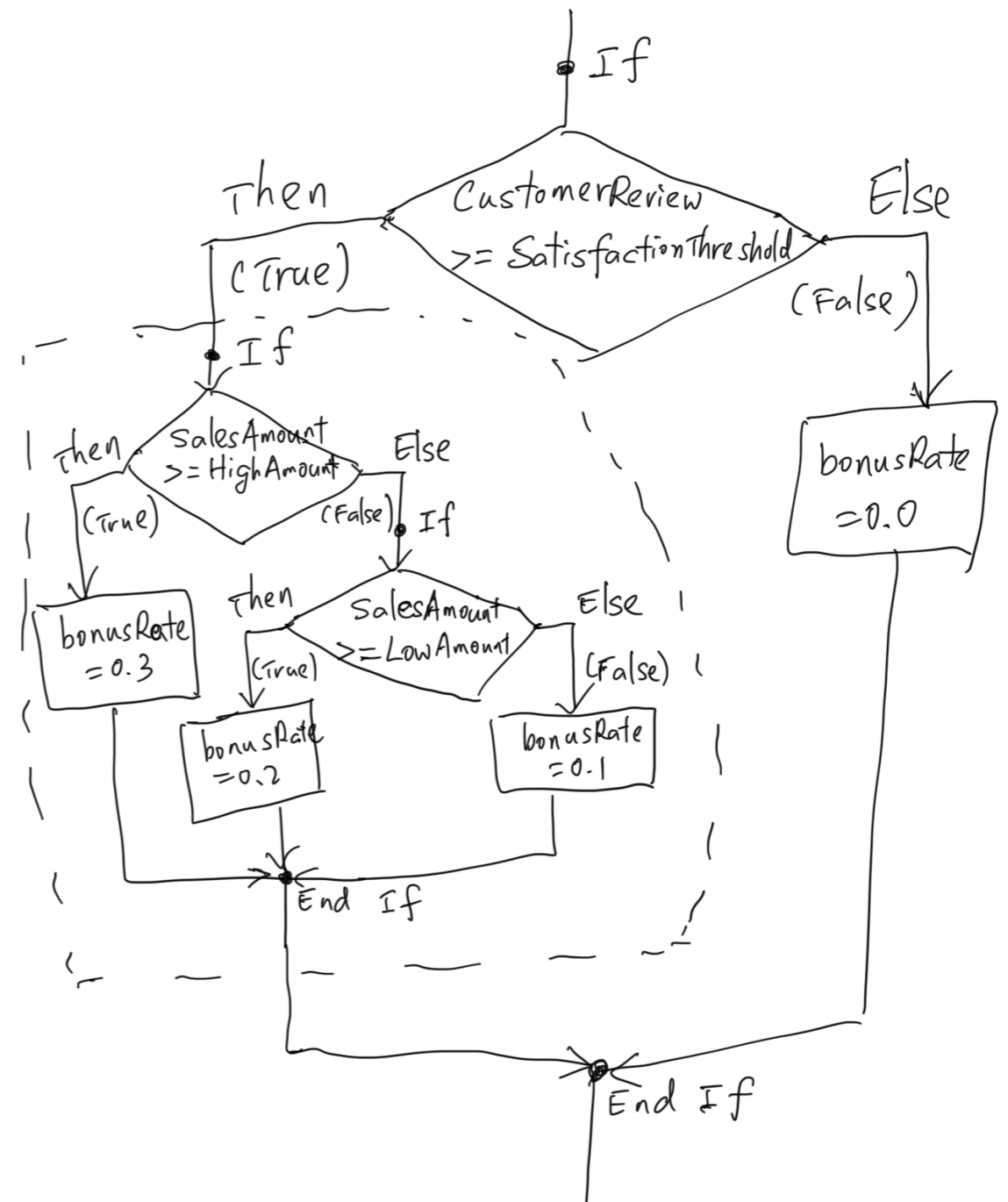
- Each value list contains one or more of the following types of items:
 - a literal value;
 - a variable;
 - an expression;
 - an inequality sign preceded by `Is` and followed by a literal, variable, or expression;
 - a range expressed in the form “a To b”, where a and b are literals, variables, or expressions.
- If there are more than one items appearing in the same value list, they are separated by commas.

Nested Selection Statement

- Some statement(s) inside the if-block or else-block of an if-statement is selection statement(s). Or some statement(s) inside a case block of a switch statement is selection statement(s).

- Example:

```
If customerReview >= SatisfactionThreshold Then
    If salesAmount >= HighAmount Then
        bonusRate = 0.3
    Elseif salesAmount >= LowAmount Then
        bonusRate = 0.2
    Else
        bonusRate = 0.1
    EndIf
Else
    bonusRate = 0.0
End If
```



Typical Applications

- **Validate Input**

```
s = InputBox("Enter a number")  
If not IsNumerical(s) Then  
    MsgBox "Invalid input"  
End If
```

- **Prepare for multiple logic paths**

```
If productType = 1 Then  
    taxRate = 0.05  
Elseif productType = 2 Then  
    taxRate = 0.12  
Else  
    taxRate = 0  
End If
```

- **Handle exceptional cases**

```
If num <> 0 Then  
    average = sum/num  
End If
```